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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,918	12/09/2003	Francesco Grilli	000350D1	5799

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QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER	
ODOM, CURTIS B	
ART UNIT	PAPER NUMBER
2611	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	01/26/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/26/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
kascanla@qualcomm.com
t_ssadik@qualcomm.com

C

Office Action Summary	Application No.	Applicant(s)	
	10/731,918	GRILLI ET AL.	
	Examiner	Art Unit	
	Curtis B. Odom	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 4, 8, 9, and 16, 17, 18, and 20 of U.S. Patent No. 6, 697, 629. Although the conflicting claims are not identical due to obvious variations in claim language, they are not patentably distinct from each other because claims 1, 2, 4, 8, 9, and 16, 17, 18, and 20 read on all the limitations of claims 1-8 as follows:

Claim 1 of the instant application recites a remote terminal in a communication system, comprising: a first receiver operative to receive, process, and digitize a received signal to provide samples; and a rake receiver coupled to the first receiver and operative to receive and process the

samples to provide time measurements indicative of times of arrival of transmissions received at the remote terminal from a plurality of base stations, wherein the rake receiver includes a plurality of finger processors, wherein a first set of one or more finger processors is assigned to a first set of one or more base stations in active communication with the remote terminal, wherein a second set of one or more finger processors is assigned to a second set of one or more base stations not in active communication with the remote terminal, and wherein finger processors assigned to base stations in the first and second sets are operative to perform the time measurements on the transmissions received from the base stations.\

Claim 2 of the patent (which inherits the limitations of claim 1) recites a method for determining a position of a remote terminal in a communication system, the method comprising: identifying a first set of one or more base stations in active communication with the remote terminal; assigning at least one finger processor of a rake receiver to each base station in the first set; identifying a second set of one or more base stations not in active communication with the remote terminal; assigning an available finger processor to at least one base station in the second set; performing a time measurement for each base station assigned with at least one finger processor; wherein the performing includes processing a multipath for the base station to obtain samples, and processing the samples to determine a start of a radio frame for a particular transmission, and wherein the time measurement is indicative of the start of the radio frame, and providing outputs indicative of time measurements obtained for base stations assigned with finger processors, wherein the time measurements are indicative of times of arrival of transmissions from the base stations in the first and second sets.

As one can see from above, the method of claim 2 of the patent recites all the functions of the apparatus of claim 1 of the instant application and thus reads on all the limitation of claim 1 of the instant application despite an obvious variation in claim language.

Regarding claim 2, of the instant application, claim 4 of the patent (which depends on claim 1 of the patent) reads on the limitations of claim 2 of the instant application, except that the time measurements (of claim 1 of the instant application) are times of arrival measurements. However, it would have been obvious to one skilled in the art at the time the invention was made that time of arrival measurements are time measurements. Further, it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. See In re Karlson, 136 USPX 184 (CCPA 1963). Also note Ex parte Rainu, 168 USPQ 375 (BdPatApp&Int 1970); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

Regarding claim 3 of the instant application, claim 8 of the patent (which depends on claim 1 of the patent) reads on the limitations of claim 3 of the instant application, except that the time measurements (of claim 1 of the instant application) are times of arrival measurements. However, it would have been obvious to one skilled in the art at the time the invention was made that time of arrival measurements are time measurements. Further, it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. See In re Karlson, 136 USPX 184 (CCPA 1963). Also note Ex parte Rainu, 168 USPQ 375 (BdPatApp&Int 1970); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

Regarding claim 4 of the instant application, claim 9 of the patent (which depends on claim 1 the patent) reads on the limitations of claim 4 of the instant application, except that the time measurements (of claim 1 of the instant application) are times of arrival measurements. However, it would have been obvious to one skilled in the art at the time the invention was made that time of arrival measurements are time measurements. Further, it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. See In re Karlson, 136 USPX 184 (CCPA 1963). Also note Ex parte Rainu, 168 USPQ 375 (BdPatApp&Int 1970); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

Claim 5 of the instant application recites a remote terminal in a communication system, comprising: a first receiver operative to receive, process, and digitize a modulated signal to provide samples; and a rake receiver coupled to the first receiver and operative to receive and process the samples to provide time measurements indicative of times of arrival of transmissions received at the remote terminal from a plurality of base stations, wherein the rake receiver includes: a plurality of finger processors, wherein one or more finger processors are assigned to each base station in a first set, and a searcher element operative to process one or more transmissions from one or more base stations in a second set, and wherein the finger processors and searcher element are each operative to perform a time measurement for a respective base station in the first or second set, and wherein time measurements for base stations in the first and second sets are performed between updates of a control signal for a reference clock used to perform the time measurements.

Claim 17 (which inherits the limitations of claim 16) of the patent recites a method for determining a position of a remote terminal in a communication system, the method comprising: identifying a first set of one base stations in active communication with the remote terminal; assigning at least one finger processor of a rake receiver to each base station in the first set; performing a time measurement for each base station in the first set using an assigned finger processor; identifying a second set of one or more base stations not in active communication with the remote terminal; and performing a time measurement for each base station in the second set using one or more processing elements, and wherein time measurements for base stations in the first and second sets are performed between updates of a control signal for a reference clock used to perform the time measurements, and wherein at least one of the performing includes: processing a multipath for the base station to obtain samples, and processing the samples to determine a start of a radio frame for a particular transmission, and wherein the time measurement is indicative of the start of the radio frame, wherein the time measurements are indicative of times of arrival of transmissions from the base stations in the first and second sets.

As one can see from above, the method of claim 17 of the patent specifically recites all the functions of the apparatus of claim 5 of the instant application except a searcher element operative to process one or more transmissions from base stations of the second set. However, claim 16 of the patent recites "performing time measurements for each base station in the second set using one or more processing elements". Therefore, it would have been obvious to one skilled in the art that a searcher is in fact a processing element. Thus, claim 17 of the patent reads on all the limitations of claim 5 of the application.

Regarding claim 6, of the instant application, claim 20 of the patent (which depends on claim 16 of the patent) reads on the limitations of claim 20 of the instant application, except that the time measurements (of claim 16 of the instant application) are times of arrival measurements. However, it would have been obvious to one skilled in the art at the time the invention was made that time of arrival measurements are time measurements. Further, it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. See In re Karlson, 136 USPX 184 (CCPA 1963). Also note Ex parte Rainu, 168 USPQ 375 (BdPatApp&Int 1970); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

Regarding claim 7 (which inherits the limitations of claim 16), of the instant application, claim 16 of the patent reads on the limitations of claim 7 of the instant application (see limitation of claim 16, "identifying a second set of one or more base stations not in active communication with the remote terminal"), except that the time measurements (of claim 16 of the instant application) are times of arrival measurements. However, it would have been obvious to one skilled in the art at the time the invention was made that time of arrival measurements are time measurements. Further, it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. See In re Karlson, 136 USPX 184 (CCPA 1963). Also note Ex parte Rainu, 168 USPQ 375 (BdPatApp&Int 1970); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

Regarding claim 8, of the instant application, claim 18 of the patent (which depends on claim 16 of the patent) reads on the limitations of claim 8 of the instant application, except that

the time measurements (of claim 16 of the instant application) are times of arrival measurements. However, it would have been obvious to one skilled in the art at the time the invention was made that time of arrival measurements are time measurements. Further, it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. See In re Karlson, 136 USPX 184 (CCPA 1963). Also note Ex parte Rainu, 168 USPQ 375 (BdPatApp&Int 1970); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor (U. S. Patent No. 6, 539, 006) in view of La Rosa et al. (U. S. Patent No. 6, 078, 611).

Regarding claim 1, Taylor discloses a remote terminal in a communication system (see Fig. 1), comprising:

a first receiver (Fig. 1, block 24, column 4, lines 26-30) operative to receive and process, a received signal; and

a rake receiver coupled to the first receiver and operative to receive and process the received signal, wherein the rake receiver (see Fig. 1, block 28) includes a plurality of finger processors (see Fig. 1, elements 44-1-4, see column 4, lines 26-37), wherein a first set of one or more finger processors (elements 44-2-4) is assigned to a first set of one or more base stations (base station 14) in active communication (in an active set) with the remote terminal (as described in column 5, lines 6-18), wherein a second set of one or more finger processors (element 44-1) is assigned to a second set of one or more base stations (base station 16) not in active communication (in active set) with the remote terminal (see column 5, lines 40-49). However, Taylor does not disclose the rake receiver is operative to provide time measurements indicative of times of arrival of transmissions received at the remote terminal from a plurality of base station, wherein finger processors assigned to base stations in the first and second sets are operative to perform the time measurements on the transmissions received from the base stations.

However, La Rosa discloses a rake receiver (see Fig. 1) comprising of an ADC (see Fig. 1, block 110) for producing samples (rays) and fingers which include time tracking circuits for controlling the time position of the finger in accordance with the time positions of a received ray (from a base station), see column 7, lines 6-16). The tracking circuit determines the arrival time position of the ray and adjusts the finger based on whether the ray was received early or late (see column 7, line 64-column 8, line 9). La Rosa further discloses by comparing the time positions of two fingers, the time separation between two arriving rays in known (see column 7, lines 61-63). Therefore, it would have been obvious to one skilled in the art at the time the invention was

made to modify the fingers of Taylor to track the timing of rays as disclosed by La Rosa since La Rosa states this method (time tracking) exploits channel diversity (see column 11, lines 7-11).

Regarding claim 2, La Rosa further discloses the time tracking in performed at the same instance in time (see column 6, liens 15-21). It would have been obvious to include this feature since La Rosa states this method (time tracking) exploits channel diversity (see column 11, lines 7-11).

Regarding claim 3, La Rosa further discloses the time tracking for each ray is based on the first received multipath ray assigned to the first finger (see column 4, lines 35-55). It would have been obvious to include this feature since La Rosa states this method (time tracking) exploits channel diversity (see column 11, lines 7-11).

Regarding claim 4, La Rosa further discloses the time tracking for each ray is based on transmissions on the channel (see column 2, lines 8-23). It would have been obvious to include this feature since La Rosa states this method (time tracking) exploits channel diversity (see column 11, lines 7-11).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kumar et al. (US 2001/0043578) discloses performing functions with base stations not in active communication with a rake receiver.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis B. Odom whose telephone number is 571-272-3046. The examiner can normally be reached on Monday- Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Curtis Odom
January 22, 2007